

## Unit 2 Review: (Study Guide)

### I. Atomic Mass (average):

Mass of all the isotopes in the world averaged together.

Atomic number: number of protons

\* When you change this, element changes

Mass number: mass of specific isotope of element

Calculate by adding  $p^+$  and  $n^0$

Isotope: atom with different number of neutrons

Ions: atom with different number of electrons than a neutral atom

Valence Electrons:  $e^-$  in outermost orbital (highest energy level)

II. 1.  $p^+$

2. nucleus has a positive charge

3. number of  $p^+ = e^-$

4.  $e^-$  are in energy levels (orbitals)  
and also in sub-orbitals

5. Atomic number  $\rightarrow$  whole number  
smaller number

6. (Average) Atomic mass  $\rightarrow$  number  
with decimals  
larger number

These always have decimals because  
it is an average

7.  $p^+$ , if neutral atom  $e^-$

8. mass number will be within  $\pm 3$   
of (average) atomic mass

9.  $e^-$  move randomly within  
their energy level/sub-orbital

III.

10. mass number

11. Same for all Mg atoms  $\rightarrow$  look up on periodic table

12. a. different number of neutrons

c. Manganese - 55

Manganese - 56

b. isotope

14/15. cation  $\rightarrow$  + charged atoms  
more  $p^+$  than  $e^-$ 16/17. anion  $\rightarrow$  - charged atoms  
more  $e^-$  than  $p^+$ IV.  $K \rightarrow 1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$ 